
Science Flight Report

Operation IceBridge Arctic 2012



Flight: F36
Mission: Northeast Grid 02

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	37
Flight Request	12P006
Date	Monday, May 7, 2012 (Z)
Purpose of Flight	Operation IceBridge Mission Northeast Grid 02
Take off time	11:00 Zulu from Thule Air Base (BGTL)
Landing time	18:53 Zulu at Thule Air Base (BGTL)
Flight Hours	8.1 hours
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None.
Accomplishments	<ul style="list-style-type: none">• Low-altitude survey (1,500) of glaciers and ice sheet profiles.• ATM, snow, Ku-band, accumulation radar, MCoRDS gravimeter, magnetometer, DMS and KT-19 skin temperature sensor were operated on the survey lines.• Pitch maneuvers for snow and Ku-band radar calibration.
Geographic Keywords	Northeast Greenland
Satellite Tracks	ICESat orbits 1297,0352,0233,0062
Repeat Mission	None.

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	65 GB	None
MCoRDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2.0 TB	None
Snow Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	750 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	750 GB	None
Accumulation Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	220 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	83 GB	None
KT-19 Skin Temp.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10 MB	None
Gravimeter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.5 GB	None
Magnetometer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	550 MB	None

Mission Report (Michael Studinger, Mission Scientist)

This is a new mission, one of a suite of six flights intended to thoroughly sample the bedrock topography of northeast Greenland along a series of nearly coast-parallel ICESat lines. At the same time we obtain altimetry measurements along the ICESat tracks which will enable the calculation of dh/dt over a broad area and a significant time span. This particular mission complements the Northeast Grid 01 mission with the next two tracks in the inland direction. It transits to the area along short ICESat tracks in the west and new east-west master grid lines.

We skipped the first ICESat lines near Thule because of low clouds and the fact that the mission was too long with 8.2 hours. The clouds were still there on the way back as expected and we only collected radar data along the line.

Individual instrument reports from experimenters on board the aircraft:

ATM: Both ATM systems worked well and collected good data along the entire line in mostly cloud free conditions. ATM collected a total of 6.1 hours of science data with 75% of the planned lines. With the 75% ATM got 100% coverage.

MCoRDS: The MCoRDS system worked well.

Snow and Ku-band radar: The snow and Ku-band radars worked well.

Accumulation radar: Worked well today.

Gravimeter: Worked well.

Magnetometer: Worked well and used the SGL data logger today without problems.

DMS: DMS worked well.

KT-19 skin temperature sensor: System worked well.

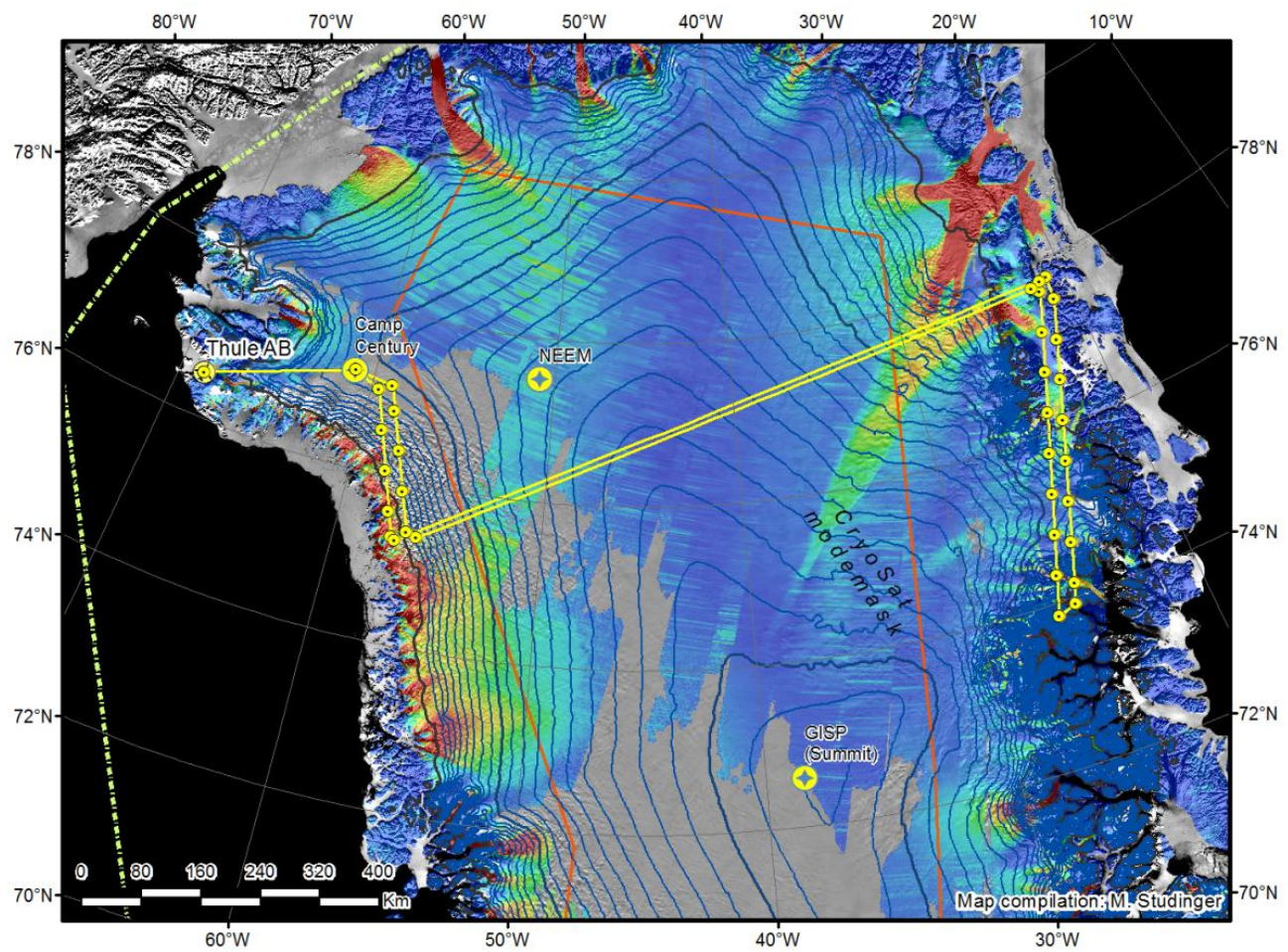


Figure 1: Today's mission plan in yellow.